

## SSMI WIND SPEED CLIMATOLOGY OF THE TIME OF MONSOON WIND ONSET IN THE WESTERN ARABIAN SEA

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Forecasting the time of onset of monsoon wind in the western Arabian Sea, which is believed to precede the onset of rainfall along the west coast of India, is an important unsolved problem. Prior to measurements of the surface wind field by satellite, there was an absence of suitable surface wind observations. NASA scatterometer (NSCAT) surface wind vectors revealed that the time of the 1997 onset of  $12 \text{ m s}^{-1}$  southwest monsoon wind speeds in the western Arabian Sea preceded the onset of monsoon rainfall in Goa, India, by 3 - 4 days. Wind speed and direction data were necessary to establish a dynamical mechanism between times of onset of  $12 \text{ m s}^{-1}$  wind speed off Somalia and rainfall in Goa. Except for NSCAT, no satellite scatterometer wind product recorded adequately sampled 2-day  $1^\circ \times 1^\circ$  averaged wind vectors, which are the required space and time scales, to examine the wind-rain relationship in other years. However, the greater-than-95% steadiness of summer monsoon winds allows an opportunity to use satellite measurements of surface wind speed. The Special Sensor Microwave Imager (SSMI) recorded surface wind speed with adequate sampling to produce a 1-day,  $1^\circ \times 1^\circ$  data product during 1988 - 1998. SSMI data had been uniformly processed throughout the period. Times of onset of  $12 \text{ m s}^{-1}$  wind speed off Somalia determined with the SSMI data set were 21 May 1988, 24 May 1989, 17 May 1990, 28 May 1991, 8 June 1992, 28 May 1993, 30 May 1994, 7 June 1995, 29 May 1996, 12 June 1997, and 15 May 1998. Uncertainty of the 1992 and 1996 times of onset were increased because of the absence of SSMI data on 6 and 7 June 1992 and on 30 May 1996. Correlations of timing of monsoon wind onset with El Niño will be described. Variability of the time difference between times of onset of  $12 \text{ m s}^{-1}$  wind speed and Goa rainfall will be discussed. At the time of submission of the abstract, the Goa rainfall data have not arrived from the India Meteorological Department.